



Better customer experiences with AI/ML and Generative AI

Randy DeFauw

Sr. Principal Solutions Architect

Justin Muller

Sr. Gen AI Architect

Question: What is generative artificial intelligence (AI)?

- Creates new content and ideas, including conversations, stories, images, videos, and music
- Powered by large models that are pretrained on vast corpora of data and commonly referred to as foundation models (FMs)



Artificial Intelligence in Retail Market to Cross **USD 19.57 Billion by 2028, at a CAGR of 30% from 2022–2028**, owing to Increased Adoption of AI for Boosting Customer Engagement



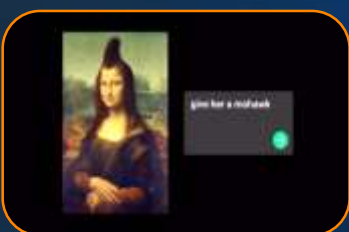
General Use Cases for Generative AI

Content Creation



Text

Create copy for things like product descriptions, blogs, and marketing content.



Images

Create product images or even show apparel on models. This is much cheaper than photography.



Code

Generate software to accomplish specific tasks. Can really enhance programmer productivity.

Natural Language Interactions



Chatbot

Have more natural conversations with customers online, via voice, or even as an avatar or hologram. Provide answers to their questions.



Summarization

Provide a summaries of bulk data such as weekly sales, competitive analysis, supply chain risks, or industry trends.



Translations

Translate copy to different languages across the globe. Done on the fly, this can be more cost-effective.



Search

Better understand a user's intent, and assist them in finding products.

Retail Use Cases by Solution Area



CUSTOMER ENGAGEMENT

ChatBots

Use more natural conversation to communicate with customer service or voice commerce.

Automatic Translation

Translate copy to reach a larger audience via multiple languages.



MERCHANDISING & PLANNING

Product Descriptions

Automate the generation of product categories and descriptions.

Product Design

Generate product ideas based on market trends.



DIGITAL COMMERCE

Product Recommendation

Use natural language to narrow products down to what the customer is specifically looking for.

Content Creation

Generate SEO-optimized copy for landing pages, blogs, and social media posts. Generate product images or models without having to use photography.



SMART STORES

Employee Experience

Provide training, tasks, and information to associates using natural language.



IT AND CORE APPLICATIONS

Faster Software Development

Use tools to generate code, find bugs, and test software. Increase engineering productivity.



ADVANCED DATA INSIGHTS

Data Analysis and Insights

Consume large amounts of data like sales, returns, or product reviews to summarize trends.



INTELLIGENT SUPPLY CHAIN

Freight Tracking

Tracking of vessels through scraping public vessel / freight locations and associate it with ordered freight to gain real time visibility of goods.

Top Use Cases for Retail

1. Chatbots
2. Product descriptions and categorization
3. Personalized product recommendations
4. Content creation
5. Automatic translation
6. Data analysis and insights
7. Product design and development

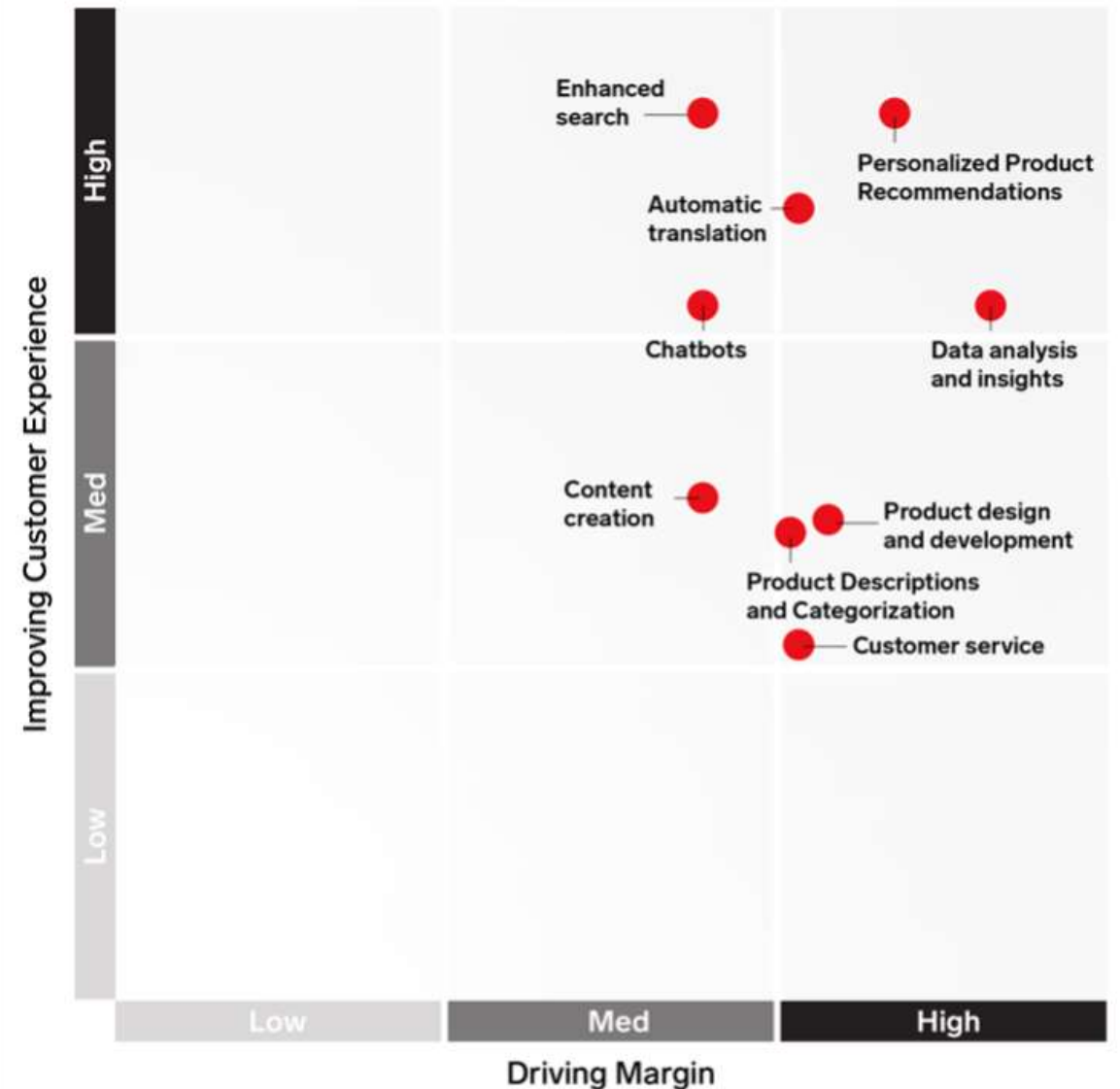
<https://content-na1.emarketer.com/chatgpt-retail>



© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved. Amazon Confidential and Trademark.

Business Cases for Use of Generative AI in Retail

3-year potential

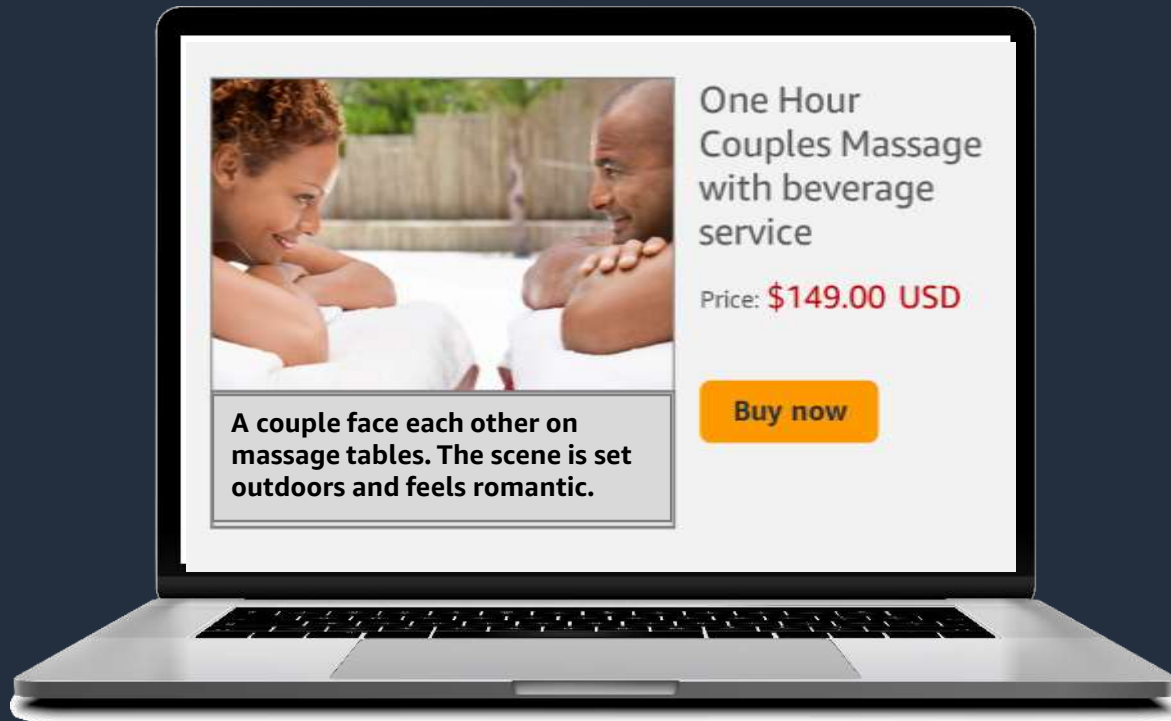


Source: Insider Intelligence, 2023

i280395

eMarketer | InsiderIntelligence.com

Generative AI application examples for T&H



Compliance and Regulatory

Web/App Adherence to Accessibility Requirements



Retailing & Personalization

Optimize Pricing, Inventory, Categorize Products/Services, Personalize Interactions



Optimize Core Operations

Simulations, Capacity Planning, Network Planning, Route Optimization, Traveler/Guest Flows, Peak Period Design



Customer Service & Communications

Chatbot (Digital Butler), Question Answering, Search, Automation of Ordering via Phone or Drive Thru, Real-time Language Translation

Generative AI application examples for T&H



Generate Email Subject Line


 For Gen-Z

 Tone: Fun



Generate Email Subject Line

 For Millennials

 Tone: Persuasive



Compliance and Regulatory

Web/App Adherence to Accessibility Requirements



Retailing & Personalization

Optimize Pricing, Inventory, Categorize Products/Services, Personalize Interactions



Optimize Core Operations

Simulations, Capacity Planning, Network Planning, Route Optimization, Traveler/Guest Flows, Peak Period Design



Customer Service & Communications

Chatbot (Digital Butler), Question Answering, Search, Automation of Ordering via Phone or Drive Thru, Real-time Language Translation

Generative AI application examples for T&H



Compliance and Regulatory

Web/App Adherence to Accessibility Requirements



Retailing & Personalization

Optimize Pricing, Inventory, Categorize Products/Services, Personalize Interactions



Optimize Core Operations

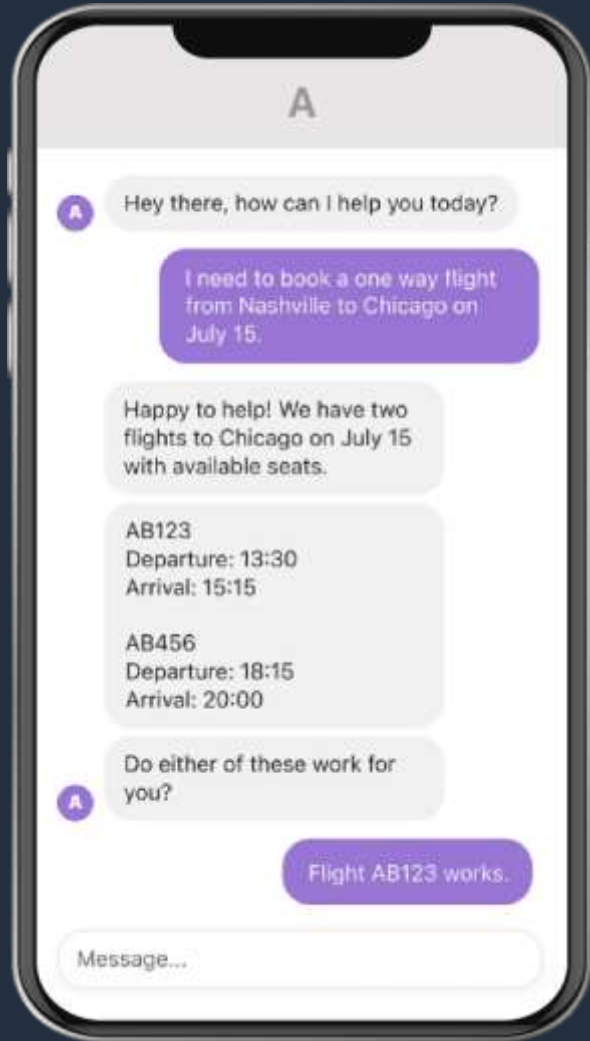
Simulations, Capacity Planning, Network Planning, Route Optimization, Traveler/Guest Flows, Peak Period Design



Customer Service & Communications

Chatbot (Digital Butler), Question Answering, Search, Automation of Ordering via Phone or Drive Thru, Real-time Language Translation

Generative AI application examples for T&H



Compliance and Regulatory

Web/App Adherence to Accessibility Requirements



Retailing & Personalization

Optimize Pricing, Inventory, Categorize Products/Services, Personalize Interactions



Optimize Core Operations

Simulations, Capacity Planning, Network Planning, Route Optimization, Traveler/Guest Flows, Peak Period Design



Customer Service & Communications

Chatbot (Digital Butler), Question Answering, Search, Automation of Ordering via Phone or Drive Thru, Real-time Language Translation

Generative AI application examples for T&H



Research & Development

New Menu Item / Limited Time Offer (LTO)
Creation, Food Pairings, Trip Ideas /
Itinerary Planning



Visual presentation of brand

Video Creation, Menu/Location Photos
Generation, Color Correction



Traveler/Guest Engagement

Social Listening, Sentiment Analytics,
Automation of Guest Engagement

Generative AI application examples for T&H



Research & Development

New Menu Item / Limited Time Offer (LTO)
Creation, Food Pairings, Trip Ideas /
Itinerary Planning



Visual presentation of brand

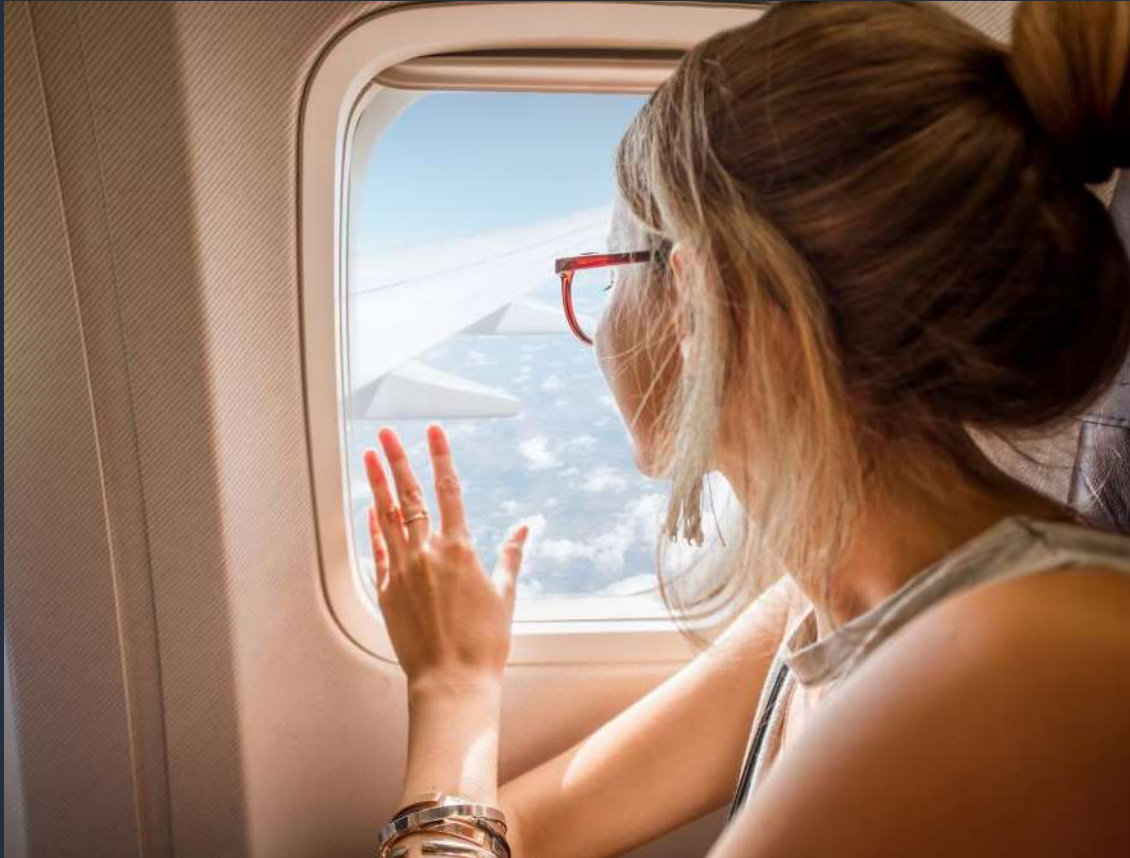
Video Creation, Menu/Location Photos
Generation, Color Correction



Traveler/Guest Engagement

Social Listening, Sentiment Analytics,
Automation of Guest Engagement

Generative AI application examples for T&H



Research & Development

New Menu Item / Limited Time Offer (LTO)
Creation, Food Pairings, Trip Ideas /
Itinerary Planning



Visual presentation of brand

Video Creation, Menu/Location Photos
Generation, Color Correction



Traveler/Guest Engagement

Social Listening, Sentiment Analytics,
Automation of Guest Engagement

Why AWS for generative AI?

ERATIVE AI



Flexibility



Secure
customization



The most cost-
effective
infrastructure



The easiest way
to build with FMs

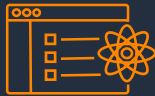


Generative AI-
powered solutions

Amazon Bedrock

DELIVER TRANSFORMATIONAL BUSINESS VALUE WITH SERVERLESS LLM CAPABILITIES

Business Use Cases



Enhance customer experience



Boost employee productivity



Creativity and content creation



Improve business operations

Amazon

Titan Large v1.01

Powerful, general-purpose models pretrained on large datasets, Titan FMs are powerful, general-purpose models that can be used as-is or customized to perform specific tasks. [View details](#)

What is generative AI?

Generative AI is a form of artificial intelligence that can create text, images, or videos based on user prompts. It uses machine learning algorithms to analyze data and generate new content that is similar to the input it has been given.

One of the main applications of generative AI is in natural language processing (NLP). Generative AI can be used to create text that is similar to the way a human writes, and can also be used to generate translations between different languages. It can also be used to create social media posts, reviews, and other types of content that require human-like writing skills.

Another application of generative AI is in image and video creation. Generative AI can be used to create new images or videos that are similar to those that have been seen before. It can also be used to create animations or to modify existing images or videos in creative ways.

There are also generative AI applications in music and sound. Generative AI can be used to create new music or to modify existing music files in creative ways. It can also be used to create sound effects or to modify existing sound files.

Overall, generative AI is a powerful tool that has the potential to revolutionize the way we create and consume content. It can help to automate many of the tasks that were previously done by humans, and can also help to create new forms of content that were not possible before.

Inference configuration [Reset](#)

▼ Randomness and diversity [Info](#)

Temperature

Top P

▼ Length [Info](#)

Response length

Stop sequences

Only | allowed (maximum 20 characters)

▶ Run

View API request

Save

Real-Time, Streaming, and **Batch Inference (new!)**



Knowledge Bases for Amazon Bedrock

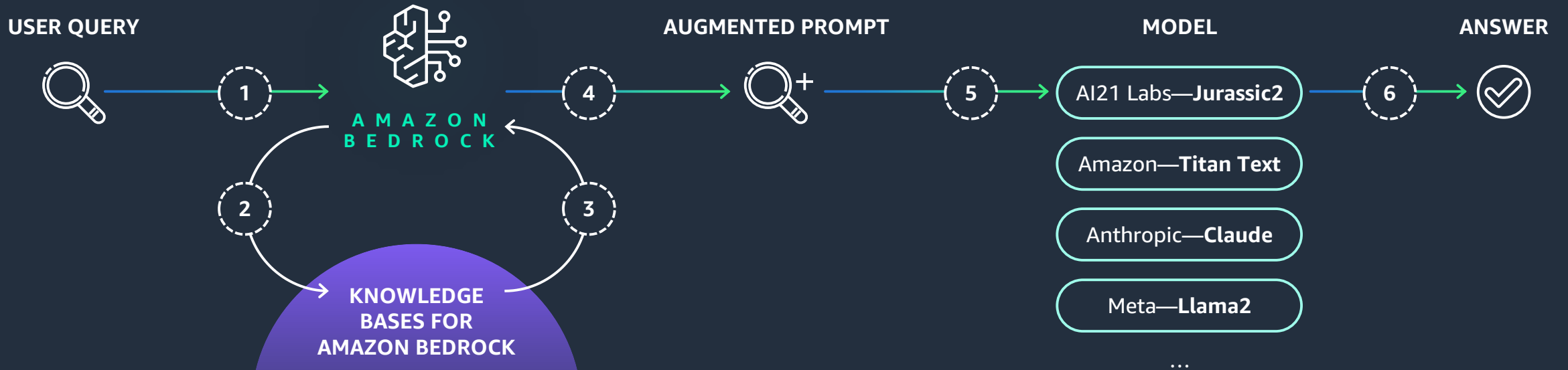
NATIVE RETRIEVAL AUGMENTED GENERATION (RAG) ON COMPANY DATA WITH BEDROCK LLMS

Securely connect FMs to data sources for RAG to deliver more relevant responses

Fully managed RAG workflow including ingestion, retrieval, and augmentation

Built-in session context management for multi-turn conversations

Automatic citations with retrievals to improve transparency








Business: Amazon Q Business Interface

A GENAI CHAT INTERFACE THAT SECURELY USES YOUR BUSINESS DATA TO ANSWER QUESTIONS





Delivers quick, accurate, and relevant answers to your business questions, securely and privately and document repositories. Provides responses with references and citations for easy fact-checking. Respects existing access control based on user permissions. Connects to over 40 popular enterprise applications and document repositories. Enables administrators to easily apply guardrails to customize and control responses.





Productivity Features

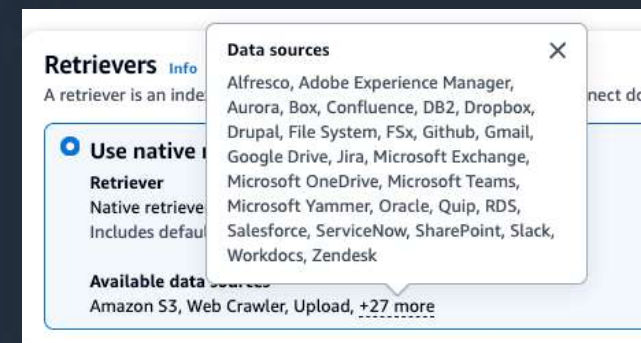
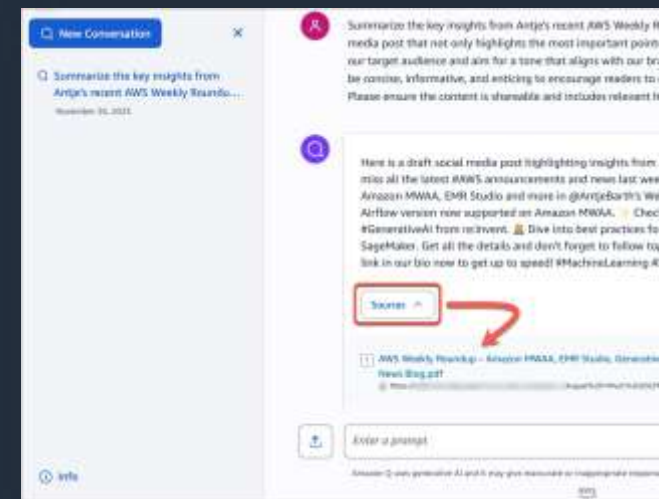
-  Trusted answers generated from enterprise data
-  Citations and source attribution
-  Conversation history and context
-  Upload files and analyze content
-  Execute Actions across multiple Enterprise Apps

Security Features

-  Use pre-built guardrails for toxicity
-  Restrict responses to enterprise content only
-  Specify blocked words or phrases that never appear in responses
-  Define special topics and configure guardrails for such topics

Integration Features

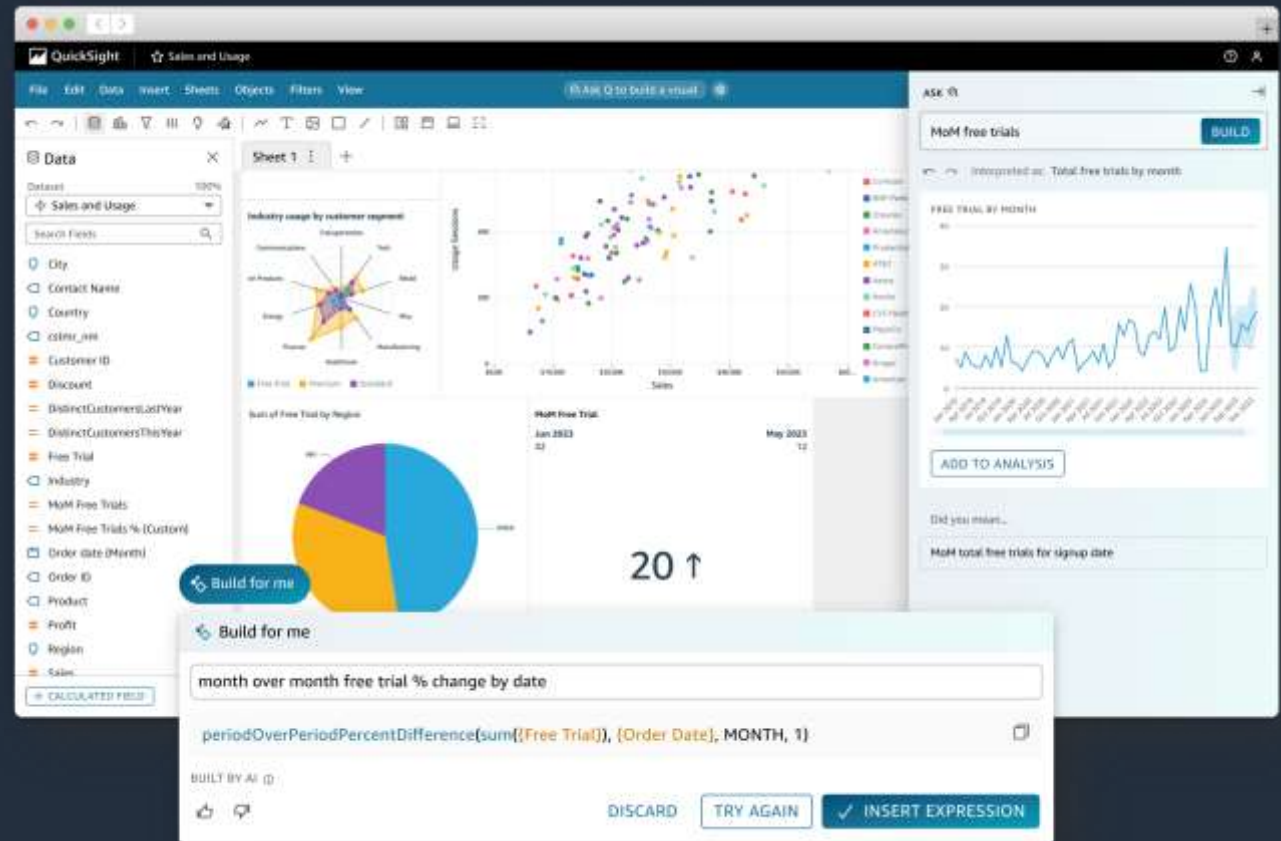
-  In-built vector index with managed ingestion
-  In-built application with SSO
-  3 click setup: Settings, retriever, and 40+ data sources
-  Accuracy of retriever-augmented generation (RAG)



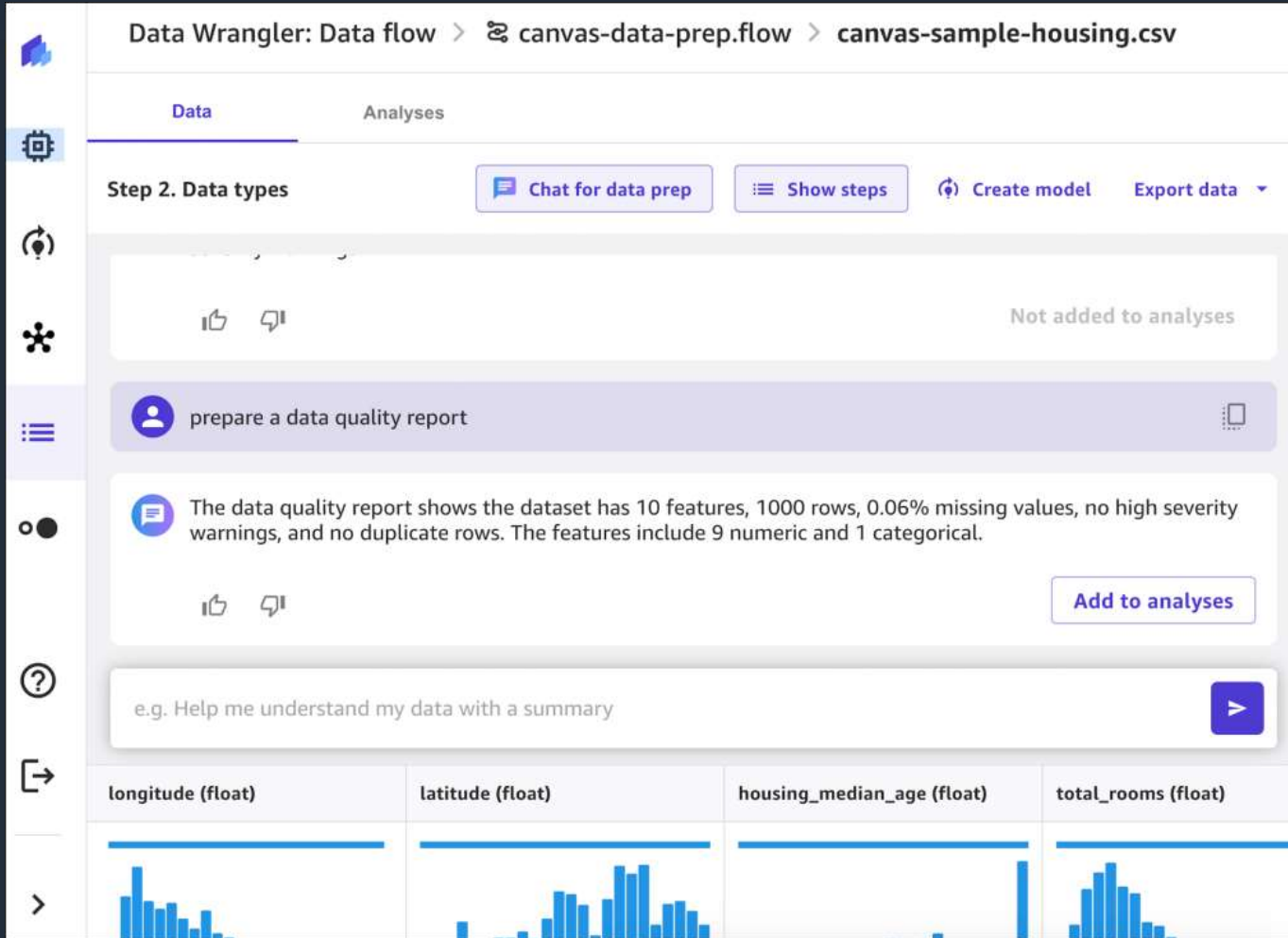
Business: Amazon Q for QuickSight

QUICKSIGHT Q&A INTERFACE THAT PROVIDES A GENAI NATURAL LANGUAGE INTERFACE FOR VISUALS

- Enables business analysts/users' to quickly build and refine compelling visuals, summarize insights, and answer data questions.
- Accelerate analysis by easily creating calculations without looking up or learning specific syntax
- Interpret and share insights with visually compelling narratives with simple UI-based workflows



Natural Language Data Prep in SageMaker Canvas



NATURAL LANGUAGE INSTRUCTION

Natural language instruction for data exploration, visualization, and preparation

Interact with the data, ask questions, visualize features, and transform data

Get started quickly with guided prompts and use ad-hoc chat to understand the data

Preview the results and apply the transforms before building ML models on the data

Let SageMaker Canvas generate code transformations based on your instruction

Booking.com helps customers experience a new world of travel using Amazon Bedrock

Booking.com

“Finding the right itinerary or destination is always a challenge, and as a technology-focused business, we are looking for ways to leverage generative AI to improve recommendations for customers, remove friction, and deliver a tailored booking experience for our customers. We are excited about Amazon Bedrock, and its generative AI capabilities, for giving us the ability to **return novel suggestions, based on loose parameters, that our customers haven't yet considered**. Amazon Bedrock also allows us to pick the right language models and fine-tune them with Booking.com data to deliver destination and accommodation recommendations that are customized and relevant. By fine-tuning language models using Amazon Bedrock, we are connecting customers with their dream destinations, making Booking.com the go-to platform for travel inspiration.”

Thomas Davey

Chief Data Officer, Booking.com

Learn more: [Case study](#)



Lonely Planet reduced costs by 80% for a secure, scalable AI platform that creates personalized travel itineraries



“We are developing a generative AI solution on AWS to **help customers plan epic trips and create life-changing experiences with personalized travel itineraries.** By building with Claude 2 on Amazon Bedrock, we reduced itinerary generation costs by nearly 80% percent when we quickly created a scalable, secure AI platform that organizes our book content in minutes to deliver cohesive, highly accurate travel recommendations. Now we can repackaging and personalize our content in various ways on our digital platforms, based on customer preference, all while highlighting trusted local voices—just like Lonely Planet has done for 50 years.”

Chris Whyde

Senior Vice President of Engineering and Data Science, Lonely Planet

Demos

**Augmented
recommendations**

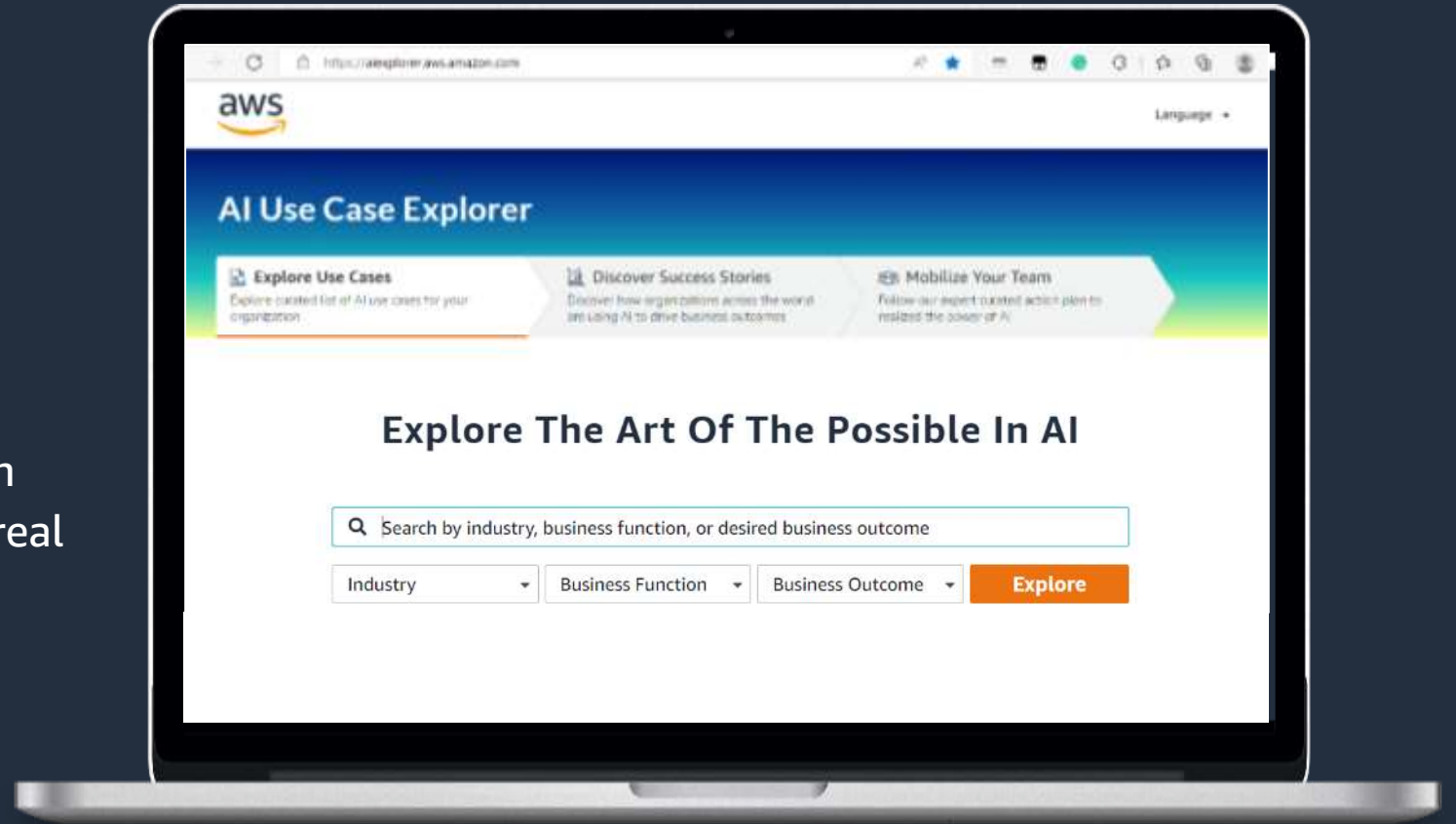
Intelligent retail chatbot

No-code Gen AI



AI Use Case Explorer

Easily find the most relevant AI use cases with related content and guidance to make them real



aiexplorer.aws.amazon.com



Thank you!

Randy DeFauw

<https://www.linkedin.com/in/randalldefauw>

Justin Muller